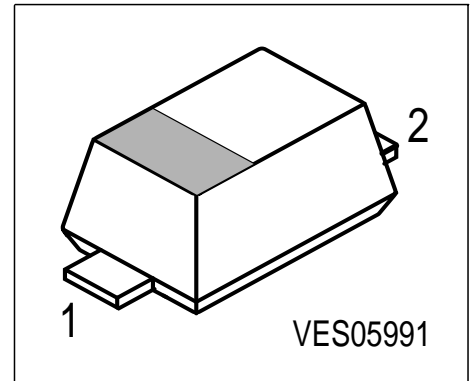


### Silicon PIN Diode

- High voltage current controlled  
RF resistor for RF attenuator and switches
- Frequency range above 1 MHz
- Low resistance and short carrier lifetime
- Very low inductance
- For frequencies up to 3 GHz
- Extremely small plastic SMD package



Type	Marking	Ordering Code	Pin Configuration		Package
BAR 64-02W	M	Q62702-A1215	1 = C	2 = A	SCD-80

### Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	200	V
Forward current	$I_F$	100	mA
Total power dissipation, $T_S \leq 125^\circ\text{C}$	$P_{\text{tot}}$	250	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Operating temperature range	$T_{\text{op}}$	- 55 ...+150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	- 55 ...+150	

### Thermal Resistance

Junction - ambient <sup>1)</sup>	$R_{\text{thJA}}$	$\leq 220$	K/W
Junction - soldering point	$R_{\text{thJS}}$	$\leq 140$	

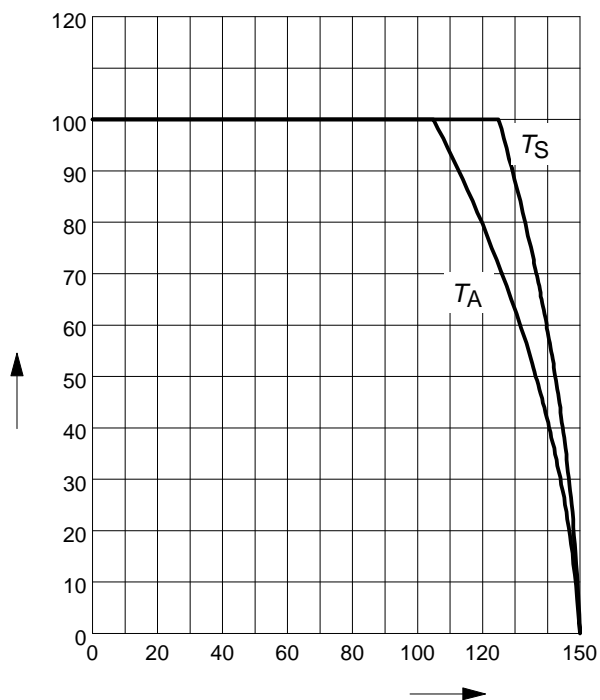
1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

**Electrical Characteristics** at  $T_A = 25\text{ °C}$ , unless otherwise specified.

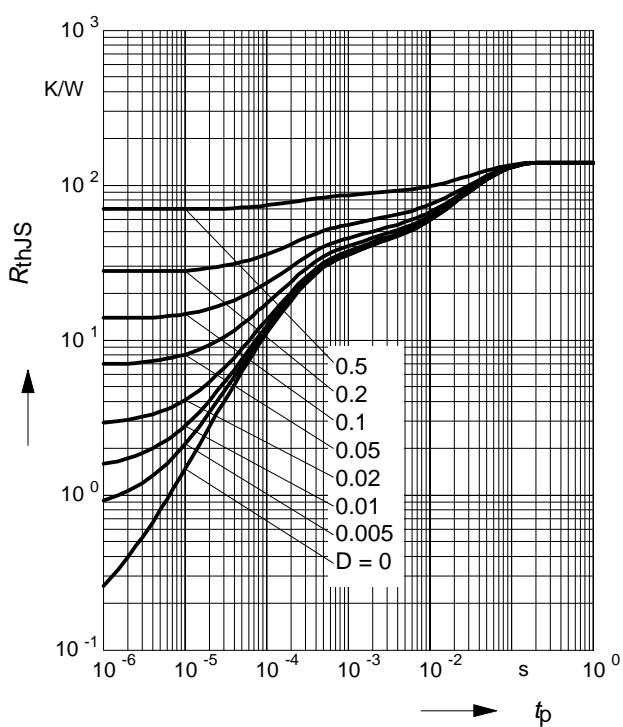
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>Characteristics</b>					
Breakdown voltage $I_{(BR)} = 5\text{ }\mu\text{A}$	$V_{(BR)}$	200	-	-	V
Forward voltage $I_F = 50\text{ mA}$	$V_F$	-	-	1.1	mV
<b>AC characteristics</b>					
Diode capacitance $V_R = 20\text{ V}, f = 1\text{ MHz}$	$C_T$	-	0.23	0.35	pF
Case capacitance $f = 1\text{ MHz}$	$C_C$	-	0.09	-	
Forward resistance $I_F = 1\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$ $I_F = 100\text{ mA}, f = 100\text{ MHz}$	$r_f$	-	12.5 2.1 0.85	20 3.8 1.35	$\Omega$
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}, I_R = 3\text{ mA}$	$\tau_{rr}$	-	1.55	-	$\mu\text{s}$
Series inductance	$L_S$	-	0.6	-	nH

**Forward current**  $I_F = f(T_A^*; T_S)$

\*) : mounted on alumina 15mm x 16.7mm x 0.7mm

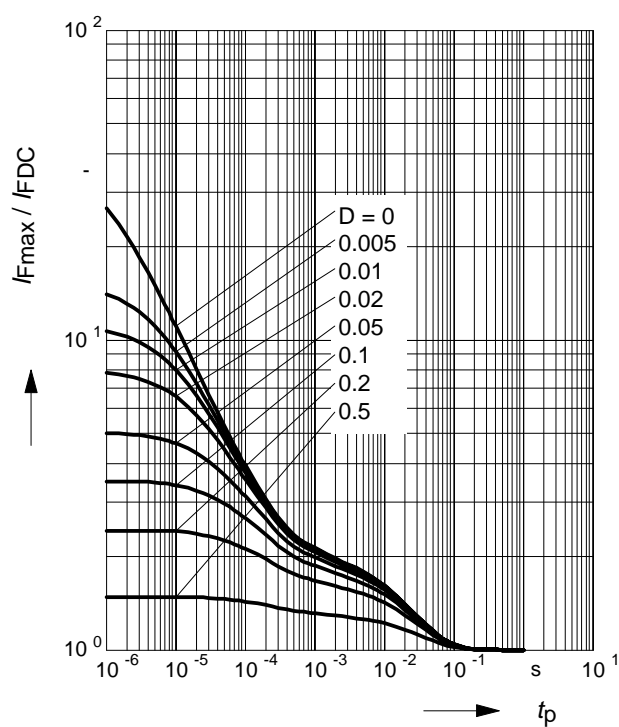


**Permissible Pulse Load**  $R_{thJS} = f(t_p)$



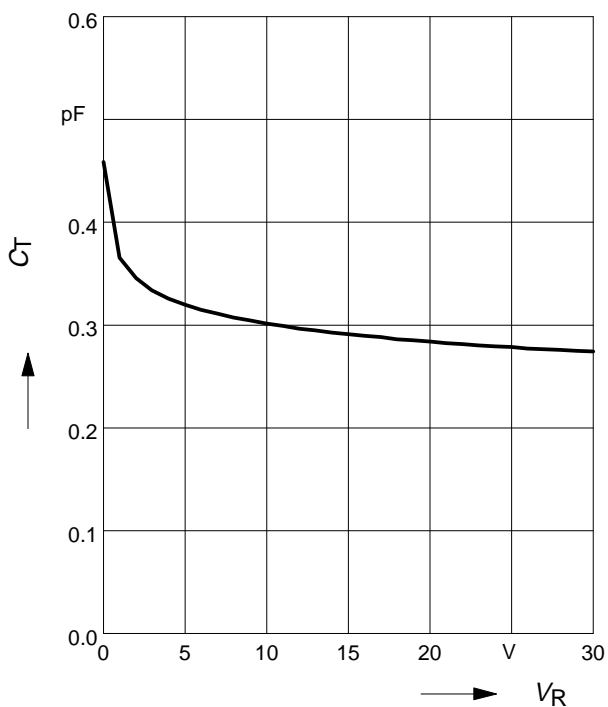
**Permissible Pulse Load**

$I_{Fmax} / I_{FDC} = f(t_p)$



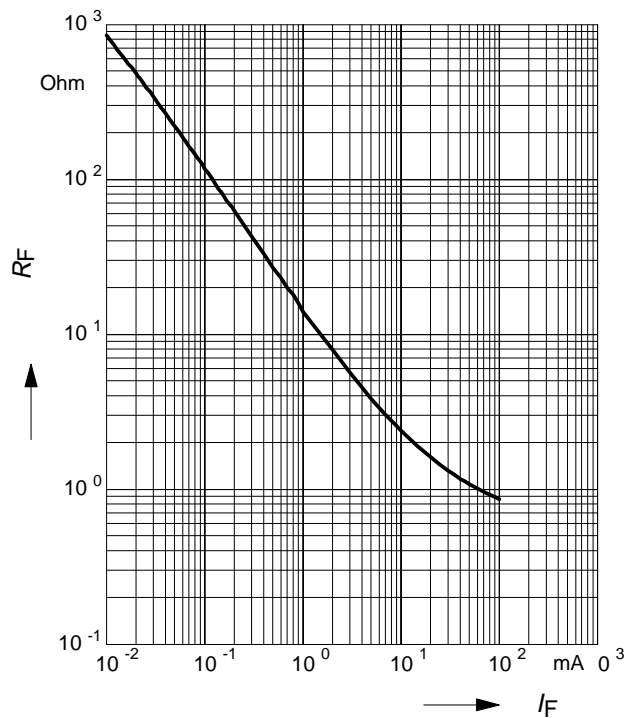
### Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



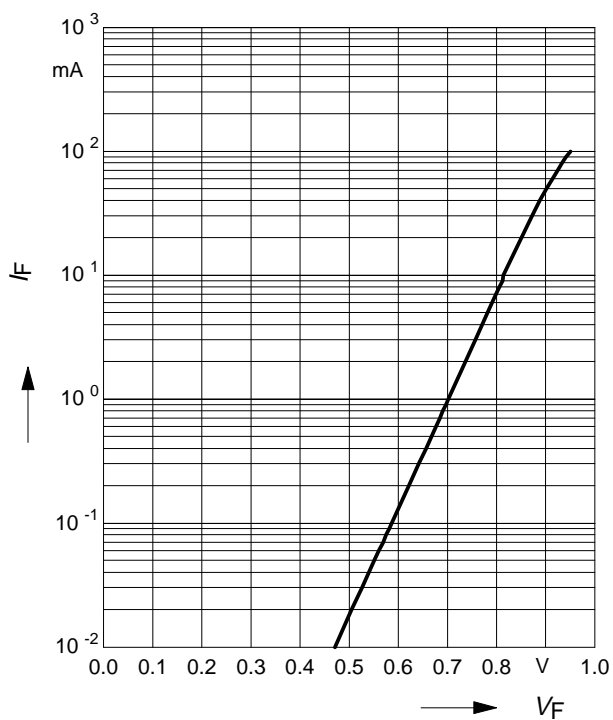
### Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



### Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$



### Intermodulation intercept point $IP_3 = f(I_F)$

$f = \text{parameter}$

